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TROP, PRUNER & HU, P.C. 1616 S. VOSS ROAD, SUITE 750 HOUSTON, TX 77057-2631			ZARABIAN, AMIR	
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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* BRIAN G. JOHNSON

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Appeal 2009-0922  
Application 10/634,146  
Technology Center 2800

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Decided: April 28, 2009

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Before ROBERT E. NAPPI, MARC S. HOFF,  
and ELENI MANTIS-MERCADER, *Administrative Patent Judges*.

NAPPI, *Administrative Patent Judge*.

**DECISION ON APPEAL**

This is a decision on appeal under 35 U.S.C. § 6(b) of the final  
rejection of claims 1 through 10.

We reverse the Examiner's rejections of these claims.

## INVENTION

The invention is directed towards a method for use in programming phase change memories. Phase change memories are generally in amorphous or crystalline states and stay in that state until reprogrammed and thus provide a non volatile memory. The method involves both electrically and optically accessing and programming the phase change memory. See pages 1, 2, 7, and 8 of Appellant's Specification. Claim 1 is representative of the invention and reproduced below:

1. A method comprising:  
optically programming a phase change memory after  
electrically programming said memory.

## REJECTION AT ISSUE

The Examiner has rejected claims 1 through 10 under 35 U.S.C. § 112 first paragraph as failing to comply with the written description requirement. The Examiner's rejection is on page 3 of the Answer.<sup>1</sup>

## ISSUES

Appellant's contentions present us with the issue: did the Examiner err in finding that the originally filed Specification fails to provide support for the claim 1 limitation of optically programming a phase change memory after electrically programming said memory?

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<sup>1</sup> Throughout the opinion we refer to the Answer mailed September 14, 2007.

#### FINDINGS OF FACT

1. Appellant's Specification<sup>2</sup> states memory cells are read before they are programmed to determine their prior programming. Spec. 7, ll. 19-22.
2. Appellant's Specification also discusses that in some embodiments transforming the memory material from amorphous to crystalline state is performed by electrical programming and that converting from crystalline to amorphous to is performed by light programming. Spec. 8, ll .7-11.
3. Appellant's Specification states “[i]n the dual mode, combinations of optical and electrical programming may be combined with feedback sensing.” Spec. 8, ll. 15-17.

#### PRINCIPLES OF LAW

The written description requirement serves "to ensure that the inventor had possession, as of the filing date of the application relied on, of the specific subject matter later claimed by him; how the specification accomplishes this is not material." *In re Wertheim*, 541 F.2d 257, 262 (CCPA 1976). In order to meet the written description requirement, the Appellant does not have to utilize any particular form of disclosure to describe the subject matter claimed, but "the description must clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed." *In re Gosteli*, 872 F.2d 1008, 1012 (Fed. Cir. 1989). Put

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<sup>2</sup> Throughout the opinion we refer to the Specification filed Aug. 4, 2003, which is the originally filed Specification for this application (No. 10/634,146).

another way, "the applicant must . . . convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention." *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64 (Fed. Cir. 1991). Finally, "[p]recisely how close the original description must come to comply with the description requirement of § 112 must be determined on a case-by-case basis." *Eiselstein v. Frank*, 52 F.3d 1035, 1039 (Fed. Cir. 1995) (quoting *Vas-Cath*, 935 F.2d at 1561).

## ANALYSIS

Appellant's contentions have persuaded us that the Examiner's rejection of claims 1 through 10 under 35 U.S.C. § 112 first paragraph is in error. Claim 1 recites "optically programming a phase change memory after electrically programming said memory." In rejecting claim 1, the Examiner states that "there is no teaching or suggestion in the originally-filed specification that optical programming occurs *after* electrical programming." Ans. 3. In response to this rejection, Appellant refers to pages 7 and 8 of the originally filed Specification to show that the features of this limitation were taught. Br. 9.

We concur with Appellant, and find that Appellant's originally filed Specification provides an adequate description to show that on the filing date of the application, Appellant possessed the claimed invention. Claim 1 recites that the memory is optically programmed after electrical programming is performed. Appellant's Specification discusses that memory is read to determine previous programming, before it is reprogrammed. Fact 1. Thus, Appellant's Specification describes memory may be programmed multiple times, i.e. one program is written to memory

after another has been written to memory. Appellant's originally filed Specification also describes that there is a dual mode where both forms of programming are performed. Fact 3. Further, Appellant's Specification identifies that light and electrical programming is used to create different states when programming the memory. Fact 2. Given these disclosures, we consider that one of skill in the art would recognize that Appellant had possession of the steps of programming with both light and electrical programming methods and that these programming methods may be used after a prior programming. That the Specification does not designate the order of optical programming after electrical programming is of no consequence. As the Specification only discloses two types of programming each of which produce the opposite state change in a memory cell (i.e., amorphous to crystalline, and crystalline to amorphous), the process of reprogramming (where the states of the memory cell will be changed) will necessarily require optical being used after electrical. For example, a memory cell originally programmed to be amorphous, which is done by electrically programming, is reprogrammed (programmed after electrical programming) to be crystalline by using light programming. Thus, we find adequate support in Appellant's Specification to support the claim limitation of "optically programming a phase change memory after electrically programming said memory." Accordingly, we will not sustain the Examiner's rejection of claims 1 through 10 under 35 U.S.C. § 112 first paragraph.

Appeal 2009-0922  
Application 10/634,146

#### CONCLUSION

The Examiner err in finding that the originally filed Specification fails to provide support for the claim 1 limitation of optically programming a phase change memory after electrically programming said memory.

#### ORDER

The decision of the Examiner is reversed.

REVERSED

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